

**STATUS REPORT – PINNIPED PREDATION AND HAZING
AT
BONNEVILLE DAM IN 2008**

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This is the eleventh and **final status report for 2008** on the pinniped predation and hazing activities being conducted at Bonneville Dam. Regular observations began on January 11, Mondays through Fridays, and switched to 7 days a week on February 4. Observations begin roughly an hour before sunrise and end an hour after sunset. **Please remember all data are preliminary and final figures are likely to change some after further analysis and proofing, so be careful about quoting these figures.** Data collection will end after May 31. Some additional observations will occur as long as sea lions are still present after this date.

PRELIMINARY RESULTS

Data presented here are up through May 26, 2008. We will get a final report out on the 2008 season sometime late summer. A final report of the 2005-2007 evaluation is now available on the Corps website.

PINNIPED ABUNDANCE

Steller sea lion (*Eumetopias jubatus*) daily abundance has dropped to less than one per day over the past few days (Figures 1 and 10). The number of California sea lions (*Zalophus californianus*) has also dropped to 1-2 animals the past few days (Figures 1 and 11). Many Bonneville animals with brands continue to be seen in Astoria on their way down to the California breeding grounds. A preliminary look at individuals identified at Bonneville Dam so far suggests we have seen about 77 different California sea lions, and at least 17 Steller sea lions and 2 Harbor seals. At least 38 of the California sea lions have been seen in previous years.

PREDATION FIGURES

Fish counts are still struggling to reach 150,000 by the end of the month, with daily counts bouncing between 700 and 2,000 per day last week (Figure 9). The Agencies have reduced the anticipated spring Chinook run (which goes through June 15) down to 180,000. If the current daily passage rates trend continues, we may not even meet that estimate.

Unexpanded numbers for fish observed taken between January 11 and May 26 are:

- 3,942 Chinook, 288 steelhead (see Figure 2)
- 607 sturgeon (21 larger than 5 feet)(see Figures 2, 3 and 4)
- 72 lamprey
- 703 unidentified (see Figure 2)

Steller sea lions have not been observed to take a sturgeon in weeks at Bonneville (Figure 5). California sea lions predation on Chinook has dropped off in the past week, steadily declining to only two taken yesterday (Figure 7). The sea lions have already exceeded the salmonid take of 2007 (Figure 8) with no expansion, topping 4,200. It is likely that most unknown fish observed caught by Steller sea lions are sturgeon, while those unknown fish observed caught by California sea lions are steelhead or Chinook. Lamprey take has continued for the last two weeks, with a total of 72 observed taken during the season. In addition, we have seen 13 shad, 11 Northern Pikeminnow, five smolt, and one bass taken this year.

Most sturgeon have been caught at the spillway followed by PH2, while most steelhead and Chinook have been caught at PH2 and PH1 (Figure 6). Figure 3 shows that sturgeon take has far exceeded the take of last year as the presence of Steller sea lions continues. However, smaller sturgeon are being taken proportionally more this year than in previous years (Figure 4).

HAZING IMPACTS

Few animals remain to be hazed and hazing activity has declined correspondingly.

OTHER ITEMS OF INTEREST

We got lucky last week and got some DIDSON camera images of a sea lion in the beam at the north downstream entrance area of PH2. We will be reviewing the files and images in the coming weeks. We may have been very lucky, as a fish was taken in that area, and we may get some images of what the sea lions are doing with salmon underwater (at least in this one instance.) We would like to prepare for next year to see how sea lions are taking fish as they are bunched up in front of the entrances, if that is the case.

Figure 1. Daily minimum pinniped abundance.

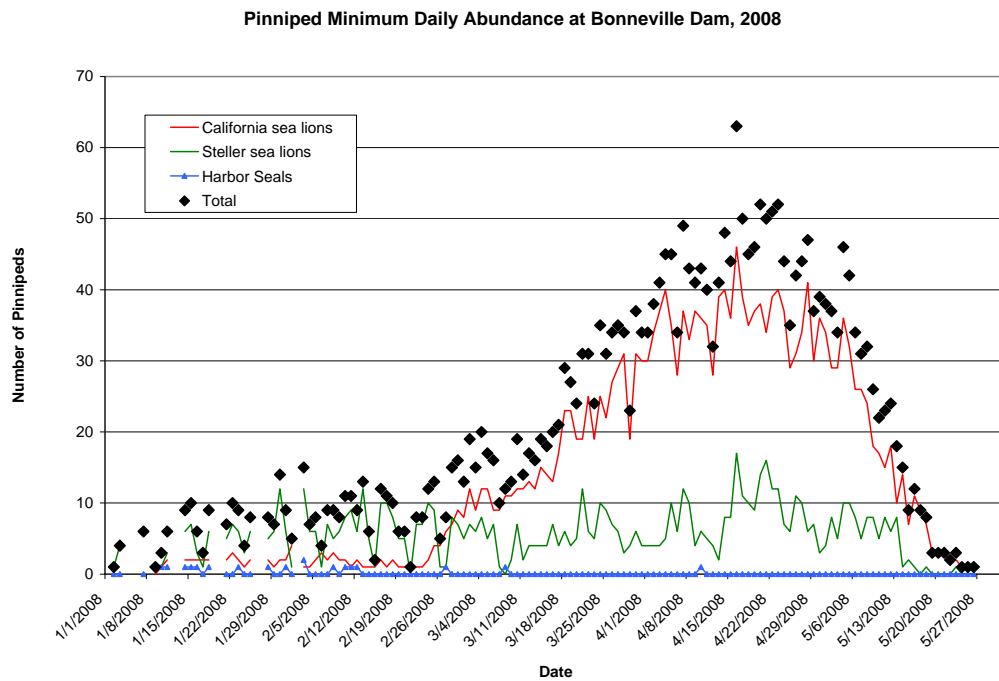


Figure 2. Daily salmonid, sturgeon, and unknown fish predation by pinnipeds, unexpanded observations.

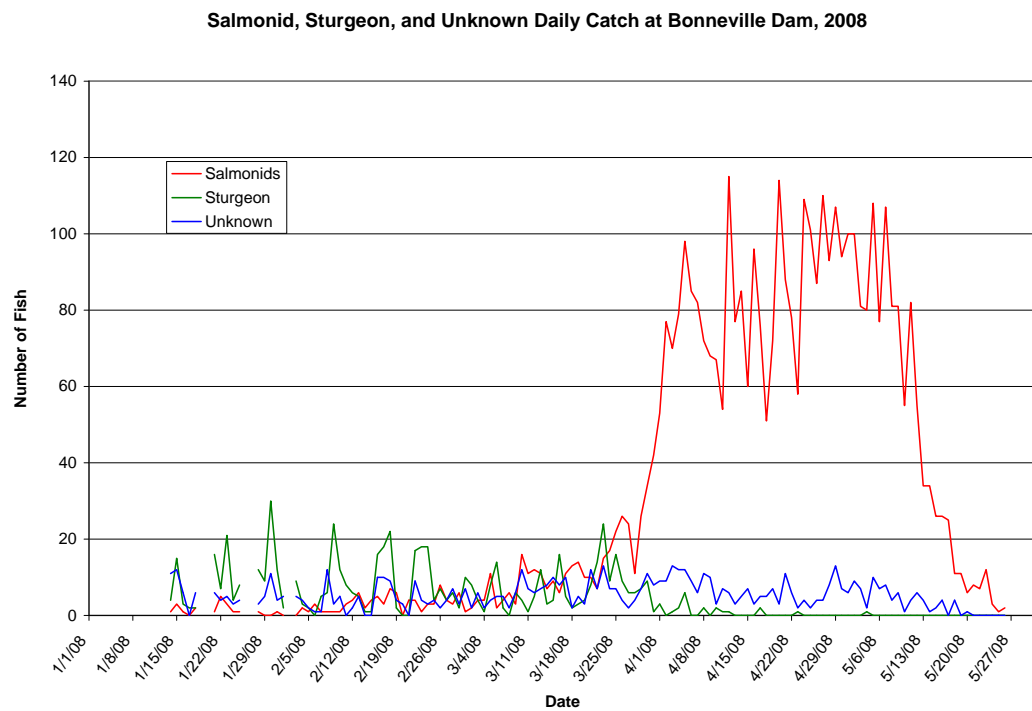


Figure 3. Cumulative estimated daily sturgeon catch by pinnipeds at Bonneville Dam, 2006-2008. 2008 data are not expanded and are preliminary.

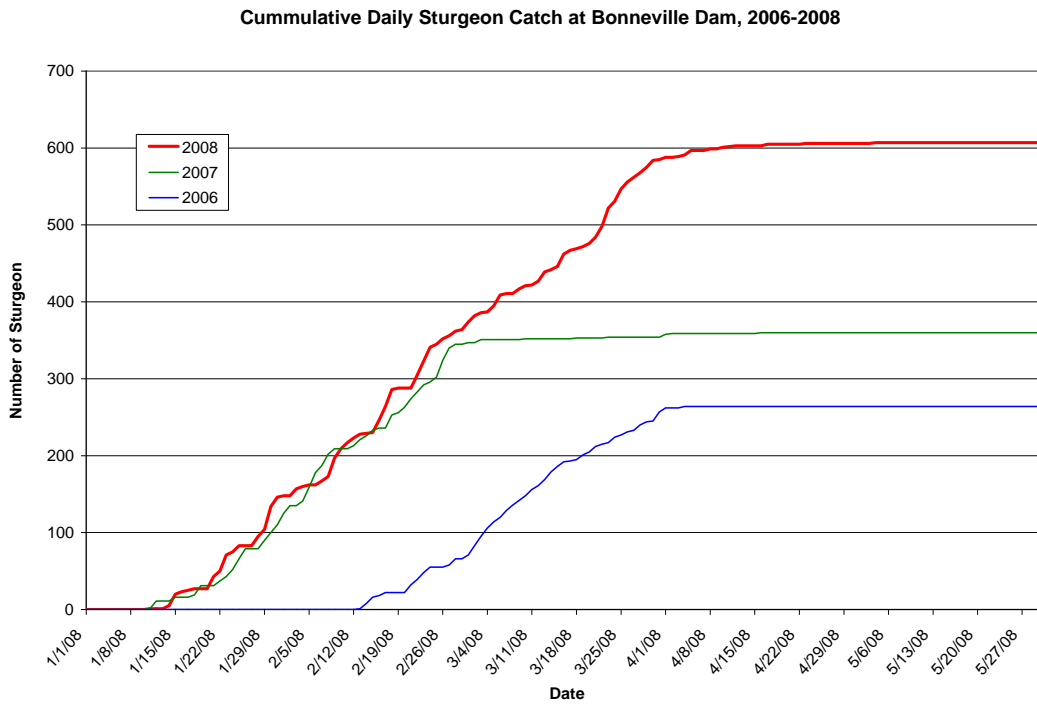


Figure 4. Size distribution of sturgeon caught at Bonneville Dam, 2002-2008.

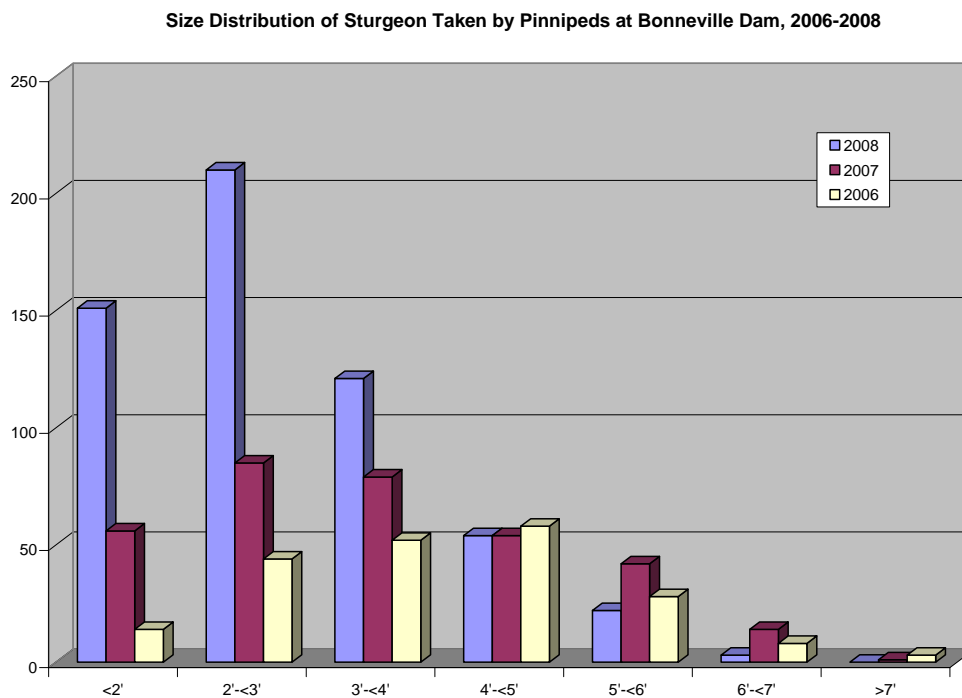


Figure 5. Prey taken by species of Pinniped at Bonneville Dam, 2008.

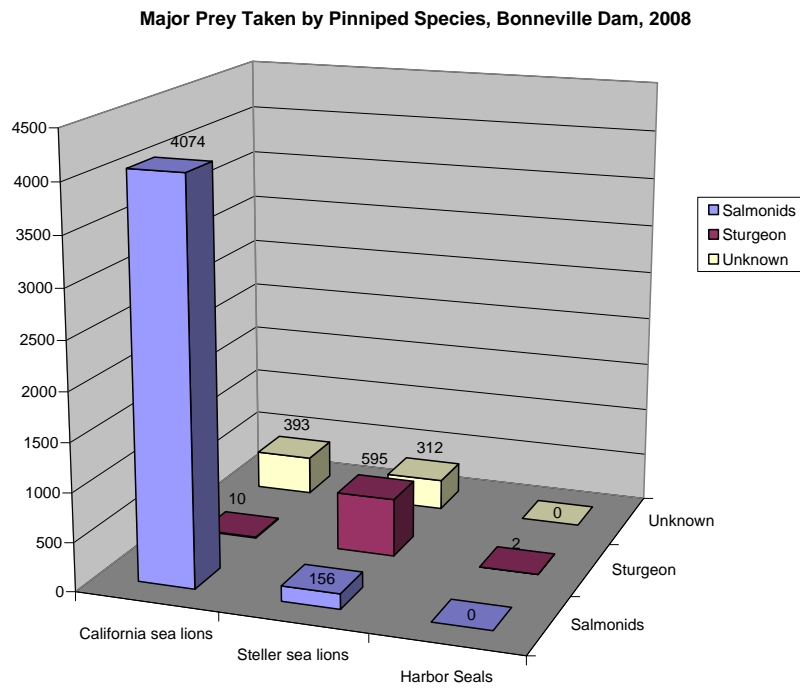


Figure 6. Location of prey taken at Bonneville Dam, 2008.

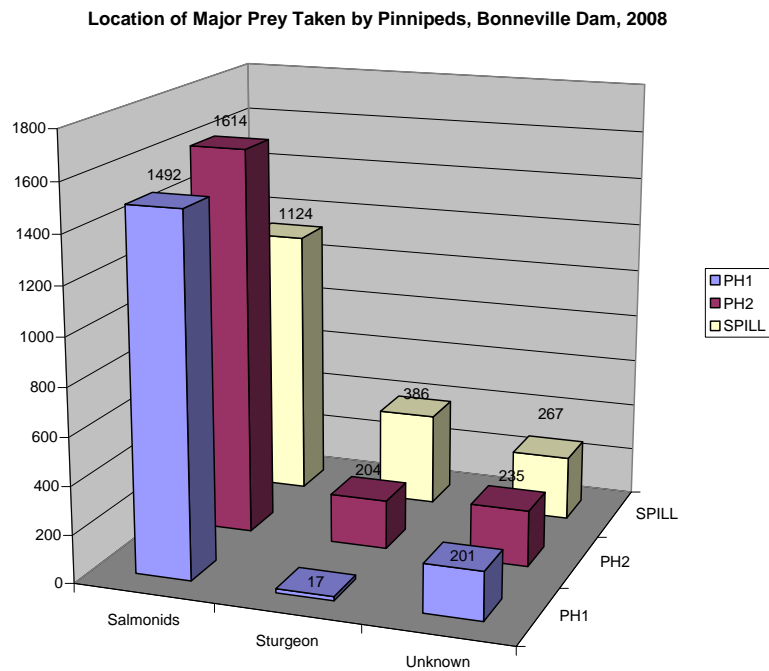


Figure 7. Daily Steelhead and Chinook take at Bonneville Dam, 2008. Data are unexpanded and preliminary.

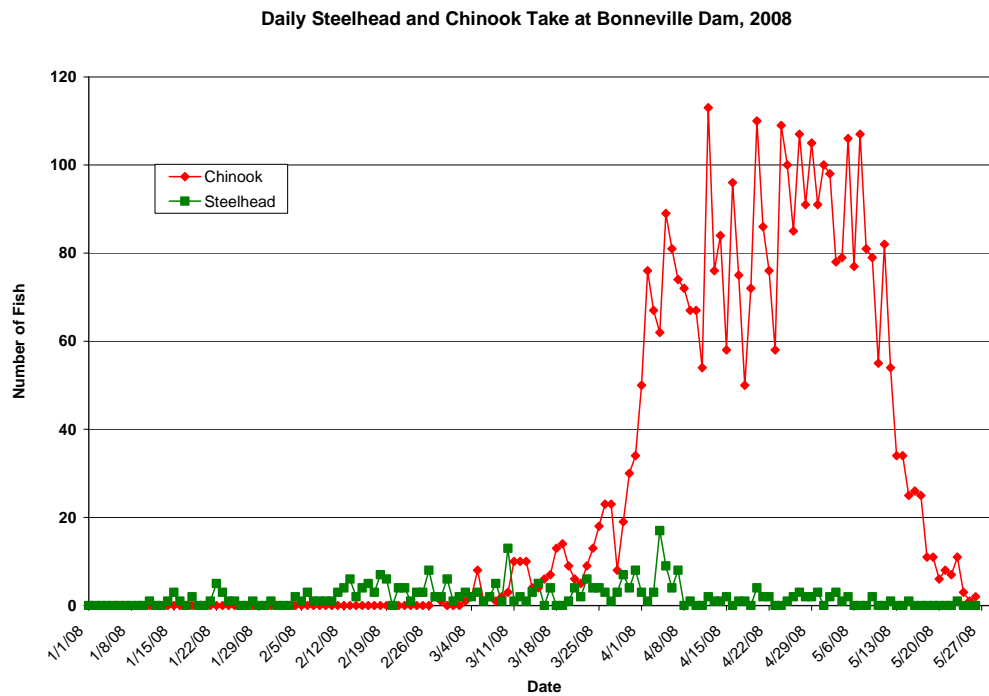


Figure 8. Cumulative estimated daily salmonid catch by pinnipeds at Bonneville Dam, 2006-2008. 2008 data are not expanded and are preliminary.

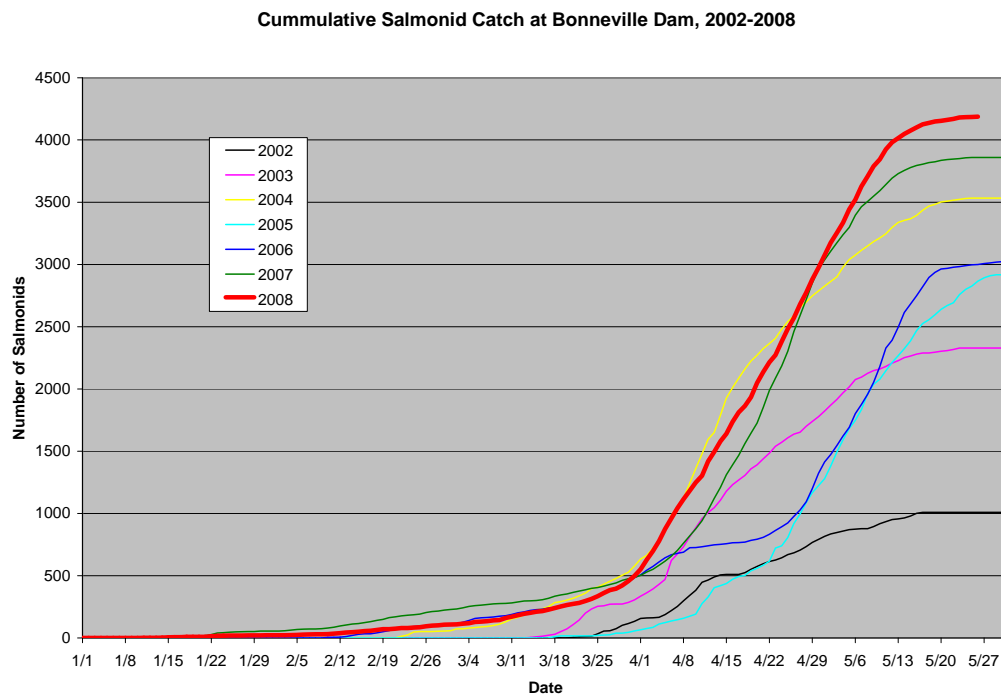


Figure 9. Cumulative total daily salmonid counts at Bonneville Dam, 2002-2008.

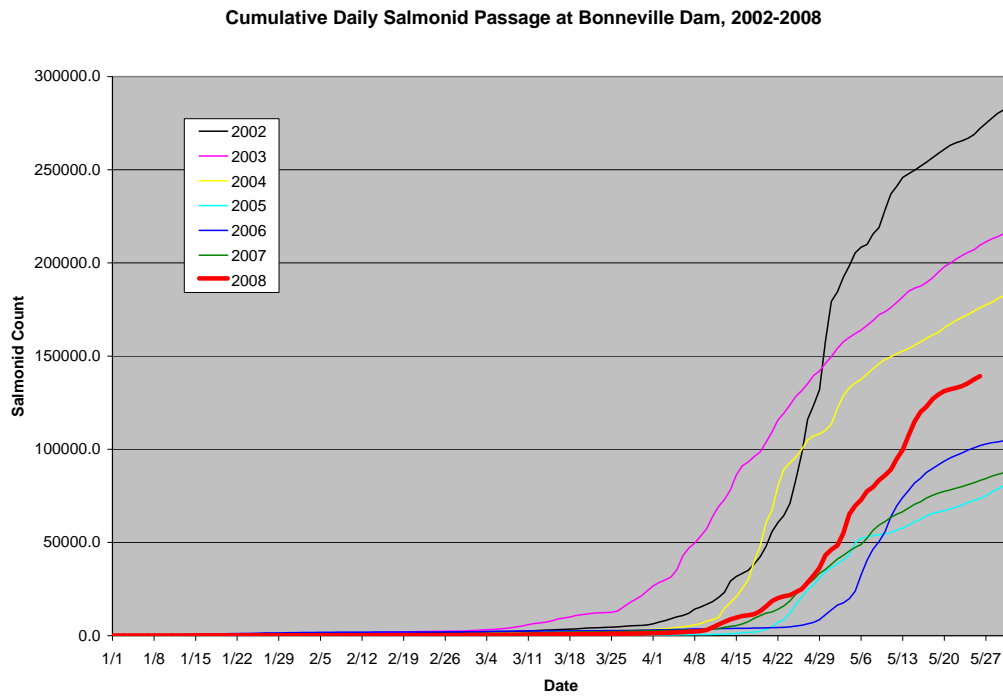


Figure 10. Steller sea lion abundance at Bonneville Dam, 2002-2008.

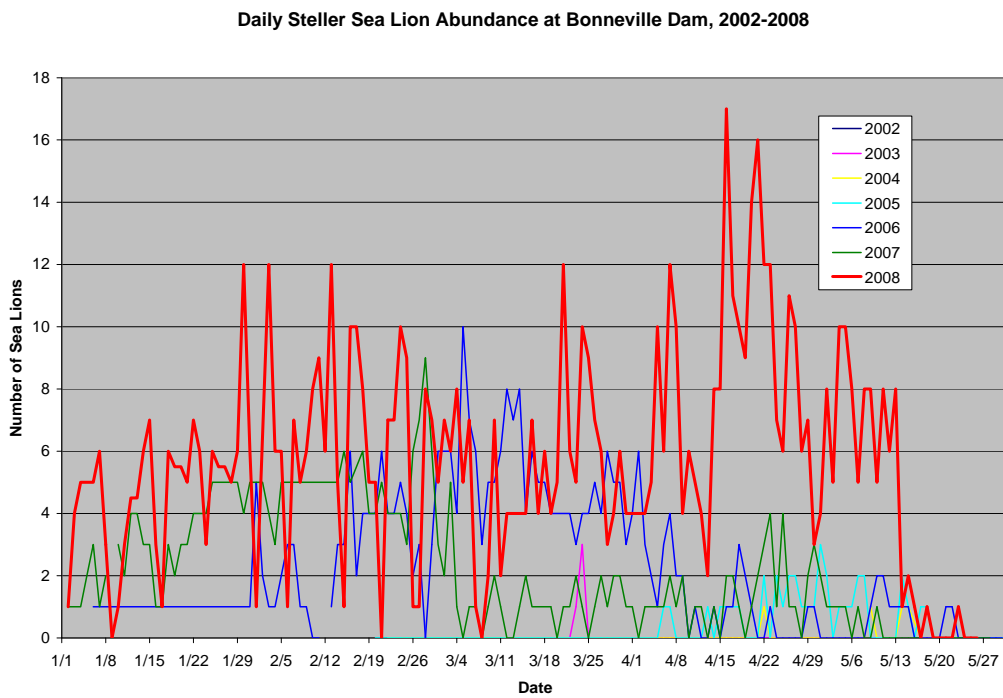


Figure 11. California sea lion abundance at Bonneville Dam, 2002-2008.

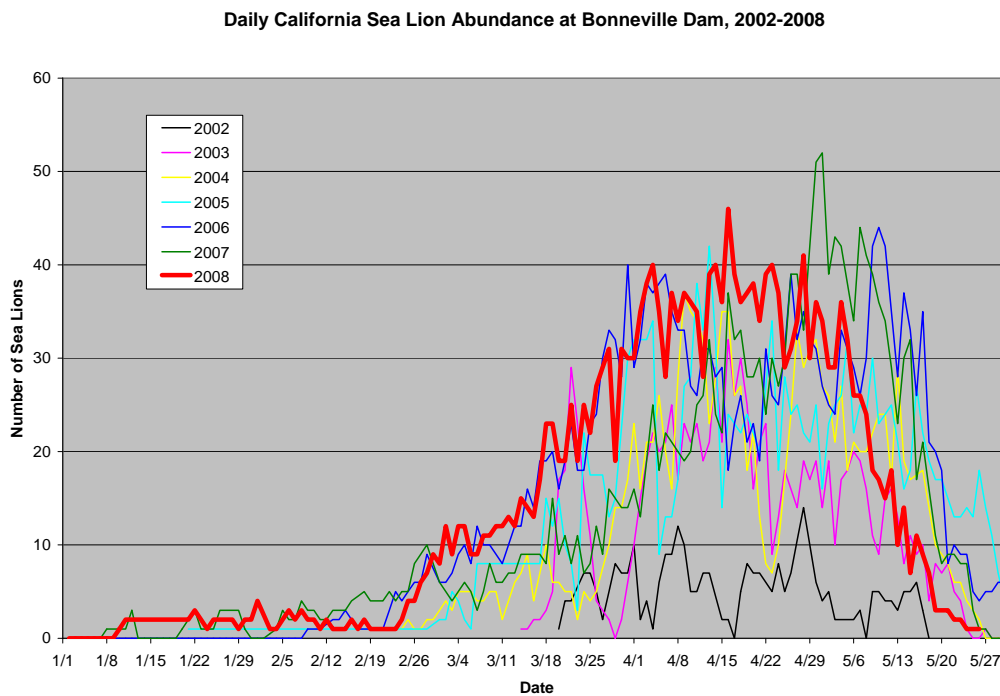


Figure 12. Total Pinniped abundance at Bonneville Dam, 2002-2008.

